



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



JUN 11 2010

Mr. William Fall  
Chevron USA  
PO Box 1392  
Bakersfield, CA 93302

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1131**  
**Project # S-1093873**

Dear Mr. Fall:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA Heavy Oil Central stationary source, CA. The project is to limit the NOx emissions of forty-four (44) steam generators for District Rule 4320 compliance.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

 David Warner  
Director of Permit Services

Enclosures

c: Dolores Gough, Permit Services

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



JUN 11 2010

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St.  
San Francisco, CA 94105

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1131**  
**Project # S-1093873**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Chevron USA Heavy Oil Central stationary source, CA, which has been issued a Title V permit. Chevron USA is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The project is to limit the NOx emissions of forty-four (44) steam generators for District Rule 4320 compliance.

Enclosed is the engineering evaluation of this application and proposed Authorities to Construct # S-1131-62-30, 63-25, 64-25, 65-26, 66-24, 67-25, 68-24, 69-24, 70-24, 73-24, 77-25, 78-24, 82-27, 94-28, 95-24, 98-30, 99-31, 858-14, 859-15, 877-16, 879-21, 880-15, 881-16, 883-16, 884-18, 908-19, 912-8, 941-14, 943-15, 966-14, 976-11, 987-11, 992-11, 993-10, 994-11, 997-11, 998-10, 999-10, 1000-10, 1001-11, 1002-10, 1003-10, 1004-10, and 1016-12 with Certificates of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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Mr. Gerardo C. Rios  
Page 2

Thank you for your cooperation in this matter.

Sincerely,

  
David Warner  
Director of Permit Services

Enclosures

c: Dolores Gough, Permit Services



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

JUN 11 2010

Mike Tollstrup, Chief  
Project Assessment Branch  
Air Resources Board  
P O Box 2815  
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1131**  
**Project # S-1093873**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA Heavy Oil Central stationary source, CA. The project is to limit the NOx emissions of forty-four (44) steam generators for District Rule 4320 compliance.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner  
Director of Permit Services

Enclosures

c: Dolores Gough, Permit Services

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

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**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Chevron USA for its crude oil production operations within its Heavy Oil Central stationary source, California. The project is to limit the NOx emissions of forty-four (44) steam generators for District Rule 4320 compliance.

The analysis of the regulatory basis for these proposed actions, Project #S-1093873, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

# San Joaquin Valley Air Pollution Control District Authority to Construct

## Steam Generators for Rule 4320 Compliance

Facility Name:	Chevron, USA	Date:	June 3, 2010
Mailing Address:	P. O. Box 1392	Engineer:	Dolores Gough
	Bakersfield, CA 93302	Lead Engineer:	Richard Karrs
Contact Person:	Martin Lundy or Sharon Walker		<i>RWK</i>
Telephone:	661-654-7142 or 654-7487		<i>6-9-10</i>
Fax:	661-654-7004		
Application #(s):	S-1131-62-30, 63-25, 64-25, 65-26, 66-24, 67-25, 68-24, 69-24, 70-24, 73-24, 77-25, 78-24, 82-27, 94-28, 95-24, 98-30, 99-31, 858-14, 859-15, 877-16, 879-21, 880-15, 881-16, 883-16, 884-18, 908-19, 912-8, 941-14, 943-15, 966-14, 976-11, 987-11, 992-11, 993-10, 994-11, 997-11, 998-10, 999-10, 1000-10, 1001-11, 1002-10, 1003-10, 1004-10, and 1016-12		
Project #:	S-1093873		
Deemed Complete:	March 3, 2010		

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### I. PROPOSAL

Chevron, USA (CUSA) is requesting Authority to Construct (ATC) permits for the modification of forty-four gas-fired steam generators at their Heavy Oil Central Stationary Source to comply with the applicable emission requirements of District Rule 4320, Advanced Emission Reductions Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr. CUSA is requesting ATCs to limit NOx emissions to 9 ppmv or 12 ppmv depending on the fuel quality. For steam generators that are allowed to burn vapor recovery gas, the ATCs will allow dual NOx limits such that when the steam generator is burning 50% or greater by volume PUC quality gas, the NOx limit would be 9 ppmvd @ 3% O2. If the fuel is less than 50% volume PUC quality gas, the NOx limit would be 12 ppmv @ 3% O2. For steam generators that are not fired on vapor recovery gas, the NOx limit will be 9 ppmv @ 3% O2.

CUSA also applied for ATCs to limit the SOx emissions only and pay an annual emissions fee to the District as specified in Section 5.3 of Rule 4320 under a separate cover (Project S-1094657). CUSA plans to implement these ATCs initially and will be the base for this project (S-1093873).

All the subject steam generators are equipped with North American GLE Magna Flame low-NOx burners with flue gas recirculation (FGR) systems except for thirteen (13) units, which are currently dormant. CUSA has proposed to install North American GLE Magna-Flame low NOx burner on each of these dormant units under the annual fee & SOx limit option in Projects S-1094657 and S-1094659. As this option (annual fee & SOx) will be implemented first, the ATCs for this project (S-1093873 - dual NOx limits) will reflect the installed equipment.

The above modifications are proposed solely to comply with District Rule 4320 emission requirements. Since there is a change to the method of operation of the steam generators, these changes are modifications pursuant to District Rule 2201.

CUSA received their Title V Permit on December 31, 2002. This modification can be classified as a Title V Minor Modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. CUSA must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

Appendix A – Draft ATCs (from Projects S-1094657 and S-1094659, base documents)

## **II. APPLICABLE RULES**

District Rule 2201	New and Modified Stationary Source Review Rule (9/21/06)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)
District Rule 4305	Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)
District Rule 4306	Boilers, Steam Generators and Process Heaters – Phase 3 (3/17/05)
District Rule 4320	Advanced Emission Reductions Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
District Rule 4351	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)
District Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

## **III. PROJECT LOCATION**

The steam generators are located within CUSA's Heavy Oil Central stationary source at the Kern River oilfield in Kern County. The steam generators are not located within 1,000 feet of the outer boundary of a K-12 school. There is also no increase in emissions; therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

## **IV. PROCESS DESCRIPTION**

CUSA operates permitted equipment at their Heavy Oil Central stationary source. In thermally enhanced oil recovery (TEOR), steam generators produce steam for injection

into heavy crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating petroleum production.

Steam enhanced oil recovery requires control of air contaminants associated with produced gas (and steam). CUSA operates tank vapor and well casing gas collection and control systems for this purpose. Tank vapor control gas and field gas is typically higher in sulfur content than PUC-regulated natural gas. The collected vapors will be pre-scrubbed (sweetened) prior to destruction in several existing steam generators.

## V. EQUIPMENT LISTING

### **Pre-Project Equipment Description (base is from Projects S-1094657 and S-1094659):**

- S-1131-62-31: 62.5 MMBTU/HR NATURAL GAS FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-38; DIS# 20630-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE LOW-NOX BURNER, AND NORTH AMERICAN OPTIMIZER
- S-1131-63-26: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG#60-39, DIS#20631-79) WITH NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER)
- S-1131-64-26: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-40; DIS# 20632-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE LOW-NOX BURNER AND NORTH AMERICAN OPTIMIZER.
- S-1131-65-27: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-41; DIS# 20633-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER)
- S-1131-66-25: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-42; DIS# 20634-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER
- S-1131-67-26: 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-43; DIS# 20635-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER)
- S-1131-68-25: 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-44; DIS# 20636-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER)



RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX  
AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER)

- S-1131-70-25: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-46; DIS# 20638-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER)
- S-1131-73-25: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-49; DIS# 20641-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER)
- S-1131-77-26: NON-COMPLIANT DORMANT 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-67; DIS# 20611-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL #5131-HGCR-62. 5, BURNER AND NORTH AMERICAN OPTIMIZER. (CANFIELD LEASE)
- S-1131-78-25: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-69; DIS# 20610-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX AND NORTH AMERICAN OPTIMIZER. (CANFIELD LEASE)
- S-1131-82-28: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-88; DIS# 20643-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (SJ LOWER)
- S-1131-94-29: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (HSG# 70-08; DIS# 20627-81) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (CANFIELD LEASE)
- S-1131-95-25: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS/GAS FIRED STRUTHERS STEAM GENERATOR (HSG# 70-31; DIS# 20642-79) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER (SJ LOWER)
- S-1131-98-30: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-44; DIS# 20608-82) WITH A NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION
- S-1131-99-31: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-45; DIS# 20609-82) WITH A

NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION

- S-1131-858-15: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED NATIONAL STEAM GENERATOR (HSG# 50-43; DIS# 20628-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA FLAME LOW NOX AND NORTH AMERICAN OPTIMIZER (CANFIELD LEASE)
- S-1131-859-15: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (HSG# 50-51; DIS# 19161- 75) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME, LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER)
- S-1131-877-17: 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #46 WITH FGR, NORTH AMERICAN MODEL GLE 4231 BURNER AND O2 CONTROLLER (CENTRAL PLANT)
- S-1131-879-22: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FGR AND AN O2 CONTROLLER (#70, CENTRAL PLANT)
- S-1131-880-16: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR #140 WITH A NORTH AMERICAN MODEL #GLE-4231 LOW-NOX BURNER AND FLUE GAS RECIRCULATION (CENTRAL PLANT)
- S-1131-881-17: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER (CENTRAL PLANT)
- S-1131-883-17: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#143) WITH A NORTH AMERICAN MODEL GLE MAGNA FLAME LOW NOX BURNER, FGR AND O2 CONTROLLER (CENTRAL PLANT)
- S-1131-884-19: 62.5 MM BTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #144 EQUIPPED WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION. (CENTRAL PLANT)
- S-1131-908-20: 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#71) WITH A NORTH

AMERICAN GLE LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND O2 CONTROLLER

- S-1131-912-09: 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM (RASMUSSEN LEASE)
- S-1131-941-15: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #29 WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AND AMETEK THERMOX O2 CONTROLLER (LEASE FEE A) (GROUP II)
- S-1131-943-15: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #29 WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AND AMETEK THERMOX O2 CONTROLLER (LEASE FEE A) (GROUP II)
- S-1131-966-15: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #24 WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AMETEK THERMOX O2 CONTROLLER (FEE C LEASE)
- S-1131-976-12: 23 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AND OXYGEN CONTROLLER/ANALYZER (#13, DIS # 27537-66)
- S-1131-987-12: 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (FGR) SYSTEM (R-3, DIS# 27474-81)
- S-1131-992-12: 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (PRICEWELL, #P-9, DIS# 27472-81)
- S-1131-993-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, FLUE GAS RECIRCULATION (PRICEWELL, P-3, DIS# 28773-85)
- S-1131-994-12: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (MCMANUS, PL-8, DIS# 4322-78)

- S-1131-997-12: 62.5 MMBTU/HR THERMOTICS NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND AN OXYGEN CONTROLLER/ANALYZER (ANGUS 2, DIS# 4509-81)
- S-1131-998-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (HOPCO, H-2, DIS# 39454-87)
- S-1131-999-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (RAMBLER, R-7, DIS# 12466-82)
- S-1131-1000-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (RAMBLER, R-8, DIS# 12468-82)
- S-1131-1001-12: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (CHINA 3, DIS#12467-82)
- S-1131-1002-11: 62.5 MMBTU/HR C.E. NATCO STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM
- S-1131-1003-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR, WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (HOPCO, H-3, DIS# 39455-87)
- S-1131-1004-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (PRICEWELL, H-4)
- S-1131-1016-13: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND FLUE GAS RECIRCULATION (ANGUS)

**Proposed Modification:**

For all units: LIMIT NOX TO 9 PPMV @ 3% O<sub>2</sub> (0.011 LB/MMBTU) OR 12 PPMV @ 3%O<sub>2</sub> (0.014 LB/MMBTU) FOR RULE 4320 COMPLIANCE

**Post-Project Equipment Description:**

- S-1131-62-30: 62.5 MMBTU/HR NATURAL GAS FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-38; DIS# 20630-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE LOW-NOX BURNER, AND NORTH AMERICAN OPTIMIZER
- S-1131-63-25: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG#60-39, DIS#20631-79) WITH NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER)
- S-1131-64-25: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-40; DIS# 20632-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE LOW-NOX BURNER AND NORTH AMERICAN OPTIMIZER.
- S-1131-65-26: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-41; DIS# 20633-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER)
- S-1131-66-24: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-42; DIS# 20634-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER. (SAN JOAQUIN LOWER)
- S-1131-67-25: 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-43; DIS# 20635-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER)
- S-1131-68-24: 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-44; DIS# 20636-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER)
- S-1131-69-24: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-45; DIS# 20637-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER. (SAN JOAQUIN LOWER)
- S-1131-70-24: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-46; DIS# 20638-79) WITH A NORTH AMERICAN

MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS  
RECIRCULATION (SAN JOAQUIN LOWER)

- S-1131-73-24: 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-49; DIS# 20641-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER)
- S-1131-77-25: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-67; DIS# 20611-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER. (CANFIELD LEASE)
- S-1131-78-24: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-69; DIS# 20610-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER. (CANFIELD LEASE)
- S-1131-82-27: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-88; DIS# 20643-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (SJ LOWER)
- S-1131-94-28: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (HSG# 70-08; DIS# 20627-81) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL GLE MAGNA-FLAME LOW NOX BURNER AND NORTH AMERICAN OPTIMIZER (CANFIELD LEASE)
- S-1131-95-24: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS/GAS FIRED STRUTHERS STEAM GENERATOR (HSG# 70-31; DIS# 20642-79) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER (SJ LOWER)
- S-1131-98-30: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-44; DIS# 20608-82) WITH A NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION
- S-1131-99-31: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-45; DIS# 20609-82) WITH A NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION

- S-1131-858-14: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED NATIONAL STEAM GENERATOR (HSG# 50-43; DIS# 20628-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, AND NORTH AMERICAN OPTIMIZER (CANFIELD LEASE)
- S-1131-859-15: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (HSG# 50-51; DIS# 19161- 75) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME, LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER)
- S-1131-877-16: 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #46 WITH FGR, NORTH AMERICAN MODEL GLE 4231 BURNER AND O2 CONTROLLER (CENTRAL PLANT)
- S-1131-879-21: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FGR AND AN O2 CONTROLLER (#70, CENTRAL PLANT)
- S-1131-880-15: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR #140 WITH A NORTH AMERICAN MODEL #GLE-4231 LOW-NOX BURNER AND FLUE GAS RECIRCULATION (CENTRAL PLANT)
- S-1131-881-16: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER (CENTRAL PLANT)
- S-1131-883-16: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#143) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, FGR AND O2 CONTROLLER (CENTRAL PLANT)
- S-1131-884-18: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #144 EQUIPPED WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION. (CENTRAL PLANT)
- S-1131-908-19: 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#71) WITH A NORTH AMERICAN GLE LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND O2 CONTROLLER

- S-1131-912-08: 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM (RASMUSSEN LEASE)
- S-1131-941-14: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #29 WITH NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION AND AMETEK THERMOX O2 CONTROLLER (LEASE FEE A) (GROUP II)
- S-1131-943-15: 62.5 MMBTU/HR O-PAR GAS-FIRED STEAM GENERATOR #31 WITH AMETEK A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND THERMOX O2 CONTROLLER (LEASE FEE A)
- S-1131-966-14: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #24 WITH A NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AMETEK THERMOX O2 CONTROLLER (FEE C LEASE)
- S-1131-976-11: 23 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION AND OXYGEN CONTROLLER/ANALYZER (#13, DIS # 27537-66)
- S-1131-987-11: 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (FGR) SYSTEM (R-3, DIS# 27474-81)
- S-1131-992-11: 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (PRICEWELL, #P-9, DIS# 27472-81)
- S-1131-993-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA -FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, FLUE GAS RECIRCULATION (PRICEWELL, P-3, DIS# 28773-85)
- S-1131-994-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE LOW-NOX BURNER, OXYGEN CONTROLLER/ANALYZER AND FLUE GAS RECIRCULATION (MCMANUS, PL-8, DIS# 4322-78)
- S-1131-997-11: 62.5 MMBTU/HR THERMOTICS NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN OXYGEN CONTROLLER/ANALYZER (ANGUS 2, DIS# 4509-81)



- S-1131-998-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, FLUE GAS RECIRCULATION (HOPCO, H-2, DIS# 39454-87)
- S-1131-999-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA- FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, AND FLUE GAS RECIRCULATION (RAMBLER, R-7, DIS# 12466-82)
- S-1131-1000-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA -FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, AND FLUE GAS RECIRCULATION (RAMBLER, R-8, DIS# 12468-82)
- S-1131-1001-11: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA -FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, AND FLUE GAS RECIRCULATION (CHINA 3, DIS#12467-82)
- S-1131-1002-10: 62.5 MMBTU/HR C.E. NATCO STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM
- S-1131-1003-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, AND FLUE GAS RECIRCULATION (HOPCO, H-3, DIS# 39455-87)
- S-1131-1004-10: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, OXYGEN CONTROLLER/ANALYZER, AND FLUE GAS RECIRCULATION (PRICEWELL, H-4)
- S-1131-1016-12: 62.5 MMBTU/HR C.E. NATCO GAS/CASING GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER AND FLUE GAS RECIRCULATION (ANGUS)

## **VI. EMISSION CONTROL TECHNOLOGY EVALUATION**

The combustion equipment in this project is capable of generating NO<sub>x</sub>, CO, VOC, PM<sub>10</sub> and SO<sub>x</sub> emissions due to the combustion of natural gas/TEOR/TVC.

The steam generators are currently or will be equipped with North American Magna-Flame ultra low-NO<sub>x</sub> burner, FGR and O<sub>2</sub> controller to meet the NO<sub>x</sub> limit requirements of Rules 4306 and 4320. SO<sub>x</sub> emissions will be in compliance with Rule 4320.

Low-NO<sub>x</sub> burners reduce NO<sub>x</sub> formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air

in a single stage just prior to combustion, whereas low-NO<sub>x</sub> burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO<sub>x</sub>. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The use of FGR can reduce nitrogen oxides (NO<sub>x</sub>) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO<sub>x</sub> is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO<sub>x</sub>.

An electronic O<sub>2</sub> controller in connection with a programmable logic controller (PLC) monitors and precisely adjusts the amount of excess combustion air and recirculated flue gas necessary for a stable combustion flame.

## VII. GENERAL CALCULATIONS

### A. Assumptions

- Steam generators operate 24 hours/day and 365 days/week.
- Steam generators are fired exclusively on gaseous fuels.
- There will be no change in current permitted emission rates, daily and annual potential to emit for CO, VOC, or PM<sub>10</sub>.
- Pre-project emissions for NO<sub>x</sub> and SO<sub>x</sub> will be from Project S-1094659 as the ATCs associated with this project will be implemented first.
- Post-project emissions will not change for SO<sub>x</sub>; but there is a decrease in NO<sub>x</sub> emission rates (from 15 ppmv to 12 ppmv or 9 ppmv @ 3% O<sub>2</sub> based on fuel quality).
- Higher start-up and shutdown emissions are allowed for NO<sub>x</sub> and CO
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)

### B. Emission Factors

**Pre-Project Emission Factors (EF1)** – from Project S-1094659 (Annual fee & SO<sub>x</sub> limit)

Since only NO<sub>x</sub> and SO<sub>x</sub> are affected in this project, only the EFs for these pollutants are shown:

	Heat Input (MMBtu/hr)	EF1 (NOx)	EF1(SOx)
S-1131-62, '-63, '-64, '-65, '-66, '-67, '-68, '-69, '-70, '-73, '-912, "-1002	62.5	0.018 lb/MMBtu	0.00285 lb/MMBtu
S-1131-1000	62.5	0.018 lb/MMBtu	0.0083 lb/MMBtu
S-1131-1001	62.5	0.018 lb/MMBtu	0.008 lb/MMBtu
S-1131-77, '-78, '-94, '-858, '-877, '-879, '-880, '-881, '-883, '-884, '-908, '-943, '-987, '-992, '-993, '-994, '-997, '-998, '-999, '-1003, '-1004, '-1016	62.5	0.018 lb/MMBtu	0.0143 lb/MMBtu
S-1131-941, '-966	27.5	0.018 lb/MMBtu	0.0143 lb/MMBtu
S-1131-976	23.0	0.018 lb/MMBtu	0.00285 lb/MMBtu
S-1131-82, '-95, '-98, '-99, '-859	62.5	0.018 lb/MMBtu	1.026 lb/MMBtu

### Post- Project Emission Factors (EF2):

NOx is the only pollutant that will have post-project change in emissions.  
For SOx: EF1 = EF2

Permit No.	EF2 (NOx)
S-1131-62, -63, -64, -65, -66, -67, -68, -69, -70, -73	9 ppmvd @ 3% O2 (0.011)
S-1131-77, -78, -82, -94, -95, -98, -99, -858, -859, -877, -879, -880, -881, -883, -884, -908, -912, -941, -943, -966, -976, -987, -992, -993, -994, -997, -998, -999, -1000, -1001, -1002, -1003, -1004, -1016	When fuel is 50% or greater by volume PUC quality gas, EF = 9 ppmvd @ 3% O2 (0.011 lb/MMBtu)  When fuel is less than 50% by volume PUC quality gas, EF = 12 ppmvd @ 3% O2 (0.014 lb/MMBtu)

## C. Calculations

### 1. Pre-Project Potential to Emit (PE1)

The PE1 for each pollutant is calculated using the following equation and the results are summarized in the table below.

- PE1 = EF1 (lb/MMBtu) × Heat Input (MMBtu/day or year)

Unit	PE1 for NO <sub>x</sub>				
	NO <sub>x</sub> (lb/MMBtu)	Heat Input (MMBtu/day)	Heat Input (MMBtu/year)	Daily PE1 (lb/day)	Annual PE1 (lb/year)
S-1131-941, '-966	0.018	660	240,900	23.8	4,336
S-1131-976	0.018	552	201,480	19.9	3,627
All Other Units	0.018	1,500	547,500	54.0	9,855

Unit	PE1 for SO <sub>x</sub>				
	SO <sub>x</sub> (lb/MMBtu)	Heat Input (MMBtu/day)	Heat Input (MMBtu/year)	Daily PE1 (lb/day)	Annual PE1 (lb/year)
S-1131-62, '-63, '-64, '-65, '-66, '-67, '-68, '-69, '-70, '-73, '-912, '-1002	0.00285	1,500	547,500	4.3	1,560
S-1131-1000	0.0083	1,500	547,500	12.5	4,544
S-1131-1001	0.008	1,500	547,500	12.0	4,380
S-1131-77, '-78, '-94, '-858, '-877, '-879, '-880, '-881, '-883, '-884, '-908, '-943, '-987, '-992, '-993, '-994, '-997, '-998, '-999, '-1003, '-1004, '-1016	0.0143	1,500	547,500	21.5	7,829
S-1131-941, '-966	0.0143	660	240,900	9.4	3,445
S-1131-976	0.00285	552	201,480	1.6	574
S-1131-82, '-95, '-98, '-99, '-859	1.026	1,500	547,500	1,539.0	561,735

## 2. Post-Project Potential to Emit (PE2)

As indicated above, only NO<sub>x</sub> has a change in emissions and calculated using the following equation.

- PE2 = EF2 (lb/MMBtu) × Heat Input (MMBtu/day or year)

Unit	PE2 for NO <sub>x</sub>				
	NO <sub>x</sub> (lb/MMBtu)	Heat Input (MMBtu/day)	Heat Input (MMBtu/year)	Daily PE2 (lb/day)	Annual PE2 (lb/year)
S-1131-62, '-63, '-64, '-65, '-66, '-67, '-68, '-69, '-70, '-73	0.011	1,500	547,500	54.0	6,023
S-1131-941, '-966	0.011	660	240,900	54.0	2,650
	0.014			54.0	3,373

S-1131-976	0.011	552	201,480	54.0	2,216
	0.014			54.0	2,821
S-1131-77, '-78, '-82, '-94, '-95, '-98, '-99, '-858, '-859, '-877, '-879, '-880, '-881, '-883, '-884, '-908, '-912, '-943, '-966, '-987, '-992, '-993, '-994, '-997, '-998, '-999, '-1000, '-1001, '-1002, '-1003, '-1004, '-1016	0.011	1,500	547,500	54.0	6,023
	0.014			54.0	7,665

### 3. Pre-Project Stationary Source Potential to Emit (SSPE1)

SSPE1 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- A Stationary Source Increase in Permitted Emissions (SSIPE) public notice is triggered

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all the criteria pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project; therefore, SSPE1 calculations are not necessary.

### 4. Post-Project Stationary Source Potential to Emit (SSPE2)

SSPE2 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- An SSIPE public notice is triggered

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all the criteria pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. The potential to emit NO<sub>x</sub> will decrease in accordance with District Rule 4320. Therefore, SSPE2 calculations are not necessary.

## **5. Major Source Determination**

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source with a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked onsite that have not been used onsite).

This source is an existing Major Source for all the criteria pollutants and will remain so. No change in Major Source status is proposed or expected as a result of this project.

## **6. Baseline Emissions (BE)**

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required. The facility is exempt from offset requirements; however for QNEC calculations, BE is as follows:

BE = Pre-project Potential to Emit (PE1) for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit (80% of pre-project emissions), located at a Major Source,
- Any Fully-Offset Emissions Unit (a unit for which offsets have been provided), located at a Major Source, or
- Any Clean Emissions Unit located at a Major Source.

Otherwise,

BE = Historic Actual Emissions (HAE)

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is equipped with emission control technology that has a minimum control efficiency of at least 95% or meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application. The subject steam generators are fired on gaseous fuels and are equipped with low NO<sub>x</sub> burners that meet the requirements for achieved-in-practice BACT (BACT Guideline 1.2.1).

Therefore, the steam generators are considered clean emissions units and the baseline emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

## 7. Major Modification

The facility is an existing major source for all air contaminants.

District Rule 2201 references the definition of major modification provided in 40 CFR 51.165 (v)(A) in effect on December 19, 2002, where major modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Significant is defined under Part 51.165(x) as a net emissions increase in the potential of a source to emit any affected pollutant equal to or exceeding any applicable thresholds. For existing major sources in the San Joaquin Valley Air Basin, which is non-attainment for Ozone and PM<sub>10</sub>, a major modification occurs if the Net Emissions Increases (NEI) is equal to or greater than one or more of the following threshold values when calculated on actual to PE basis:

<b>Major Modification Thresholds (Existing Major Source)</b>			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
NO <sub>x</sub>	>50,000 <sup>1</sup>	50,000	Yes
SO <sub>x</sub>	>80,000 <sup>1</sup>	80,000	Yes
PM <sub>10</sub>	>30,000 <sup>1</sup>	30,000	Yes
VOC	>50,000 <sup>1</sup>	50,000	Yes

## 8. Federal Major Modification

Pursuant to Rule 2201 Section 3.17, to determine if a project is a Federal major modification, the calculation procedure in 40 CFR 51.165(a)(2)(ii) shall be used.

This calculation procedure states that if the sum of the differences between the projected actual emissions and the baseline actual emissions (for existing emission units) or the sum of the potentials to emit (for new emission units) is significant, i.e. greater than the values listed in Rule 2201 Table 3-1, the project is a Federal major modification.

For existing emission units where there is no increase in design capacity the projected actual emissions (PAE) are equal to the emission rate at which the unit is projected to emit in any one year selected by the operator within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity). This projection is made by the operator and must be based on all relevant information, e.g. expected business activity.

<sup>1</sup> Due to the large number of affected units proposed by CUSA for facilities S-1127, S-1131 and S-1141 for Rule 4320 compliance, this project in conjunction with others (and considering that boilers and steam generators typically have actual emissions below their permitted emission levels) is presumed to cross one or more major modification thresholds.

For emission units (other than electric utility steam generating units), the baseline actual emissions (BAE) are calculated based on any 24 month period selected by the operator within the previous 10 year period. These emissions must not include any non-compliant operation.

In calculating the emission increase (PAE – BAE), the portion of the emissions after the project that the unit could have actually emitted (during the same period used to determine BAE) that are unrelated to the particular project and emissions due to increased product demand are excluded.

For rule compliance projects, the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for pollutants targeted by the subject rule will be a negative value.

Additionally, it can reasonably be concluded that the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for non-targeted pollutants will be zero as any increase in actual emissions (after the project) would be due to increases in business activity and not due to the modification itself. Such emission increases are excluded when calculating the emission increase.

For the reasons stated above, this rule compliance project will not result in a significant emission increase and therefore is not a Federal major modification.

## 9. Quarterly Net Emissions Change (QNEC)

The QNEC is used to complete the emission profile for the District's PAS database. The QNEC for each unit is calculated as the difference between the quarterly PE2 and the quarterly BE, which in this project is the PE1, as discussed in VII (C)(6) above.

$$\text{QNEC (lb/qtr)} = [\text{PE2 (lb/yr)} - \text{PE1 (lb/yr)}] / 4$$

There is no change in emissions except for NO<sub>x</sub>; therefore, the BE is calculated only for NO<sub>x</sub>.

Permit No.	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
S-1131-62, -63, -64, -65, -66, -67, -68, -69, -70, -73	6,023	9,855	-958
S-1135-941 and -966	3,373	4,336	-241
S-1135-976	2,821	3,627	-202



S-1131-77, -78, -82, -94, -95, -98, -99, -858, -859, -877, -879, -880, -881, -883, -884, -908, -912, -941, -943, -966, -976, -987, -992, -993, -994, -997, -998, -999, -1000, -1001, -1002, -1003, -1004, -1016	7,665	9,855	-548
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## VIII. COMPLIANCE

### District Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following\*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

\*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

However, BACT shall not be required for the following:

4.2.3 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- 4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- 4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons per year of CO.

Since each of the above-listed criteria are met, BACT is not triggered for any pollutant.

## **2. BACT Guideline and Top-Down Analysis**

Since BACT is not triggered, the proposed operation is not subject to any BACT guideline nor top-down analysis. No further discussion is required.

## **B. Offsets**

### **1. Offset Applicability**

The proposed modifications are solely for compliance with Rule 4320, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:
- 4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
  - 4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
  - 4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
  - 4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM-10, or 50 tons per year of CO.

Since the above-listed criteria are met, offsets are not required for any pollutant.

## **2. Quantity of Offsets Required**

As seen above, the project meets the exemption requirements of section 4.6.8 of District Rule 2201; therefore, offset calculations are not necessary and offsets are not required for this project.

## **C. Public Notification**

### **1. Applicability**

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

**a. New Major Source**

As demonstrated in section VII.C.5 above, the facility is not becoming a Major Source as a result of this project.

**b. Major Modification**

As demonstrated in VII.C.7, this project does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not required.

**c. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore, public noticing is not required for this project for Potential to Emit exceeding the 100 lb/day limit.

**d. Offset Threshold**

Public notification is required if the Pre-Project Stationary Source Potential to Emit (SSPE1) is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant.

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

**e. SSIPE > 20,000 lb/year**

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where  $SSIPE = SSPE2 - SSPE1$ .

There is no increase in permitted emissions as a result of this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.

**2. Public Notice Action**

As discussed above, public notice will not be required for this project.

#### **D. Daily Emission Limits (DELs)**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The DELs for the units are stated in the form of emission factors as shown:

##### **Dual NOx Limits (units firing on TVR gas):**

- Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and XX ppmvd CO @ 3% O2 or X.XXX lb-CO/MMBtu. [District Rules 2201 and 4320]
- Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NOx @ 3% O2 or 0.014 lb-NOx/MMBtu and XX ppmvd CO @ 3% O2 or X.XXX lb-CO/MMBtu. [District Rules 2201 and 4320]

##### **Units not using TVR gas:**

- Emissions from the steam generator shall not exceed any of the following limits: X.XX lb-SOx/MMBtu, X.XXX lb-PM10/MMBtu, or X.XXX lb-VOC/MMBtu. [District Rules 2201 and 4320]
- Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu or XX ppmvd CO @ 3% O2 or X.XXX lb-CO/MMBtu. [District Rules 2201 and 4320]

#### **E. Compliance Assurance**

##### **1. Source Testing**

The units in this project are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*. Source testing requirements will be discussed in the compliance review section of this evaluation.

## 2. Monitoring

As required by District Rules 4305, 4306 and 4320, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules will be discussed in the compliance review section of this evaluation.

## 3. Recordkeeping

As required by District Rules 4305, 4306 and 4320, the units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules will be discussed in the compliance review of this evaluation.

The following permit condition will be listed on permit as follows:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]

## 4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

### District Rule 2520 Federally Mandated Operating Permits

CUSA has a Title V permit. The changes authorized by these ATCs constitute a minor modification of their Title V permit. The facility has requested that the ATCs be issued with a Certificate of Conformity (COC). Therefore, prior to issuance, the ATCs will undergo a 45 day EPA review. Prior to initial operation under these ATCs, the applicant must submit a Title V application for an administrative amendment, and permit conditions will be listed as follows:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

### District Rule 4001 New Source Performance Standards

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *"the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial"*.

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above); therefore, the requirements of this section do not apply to the subject units.

#### **District Rule 4101 Visible Emissions**

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. Continued compliance with the opacity limit is expected.

#### **District Rule 4102 Nuisance**

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

#### **California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Since the applicant is not proposing an increase in emissions or fuel usage with this project, a health risk assessment is not necessary and no further risk analysis is required.

#### **District Rule 4201 Particulate Matter Concentration**

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. As natural gas-fired combustion equipment emits negligible amounts of particulate matter, compliance with this rule is expected.

#### **District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 µm in diameter.

The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:

<b>District Rule 4301 Limits (lb/hr)</b>			
<b>Unit</b>	<b>NO<sub>2</sub></b>	<b>Total PM</b>	<b>SO<sub>2</sub></b>
S-1131-62, '-63, '-64, '-65, '-66, '-67, '-68, '-69, '-70, '-73	1.9	0.3	0.1
S-1131-82, '-95, '-98, '-99, and '-859	2.3	6.8	64.0
S-1135-941	2.3	2.6	0.4
S-1135-966	2.3	1.9	0.4
S-1135-976	2.3	0.2	0.1
S-1135-1000 and '-1001	2.3	0.4	0.5
S-1135-1002	2.3	0.4	0.1
S-1131-77, '78, '-94, '-858, '-877, '-879, '-880, '-881, '-883, '-884, '-908, '-912, '-941, '943, '-966, '-976, '-987, '-992, '-993, '-994, '-997, '-998, '-999, '-1003, '-1004, '-1016	2.3	0.4 to 6.8	0.9
<b>Rule Limit (lb/hr)</b>	<b>140</b>	<b>10</b>	<b>200</b>

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

### **District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2**

This rule limits NO<sub>x</sub> and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The subject units are currently in compliance with the applicable provisions of this rule. Source testing, monitoring and recordkeeping requirements of Rule 4320 are equal to or more stringent than the requirements of this rule; therefore, continued compliance is expected.

### **District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3**

This rule limits NO<sub>x</sub> and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. Most of the subject units are currently in compliance with the applicable provisions of this rule. Those not in compliance are permitted as dormant emissions units. For the steam generators that are currently dormant, the applicant is proposing to retrofit the units with low NO<sub>x</sub> burners and meet the rule required emission limit of 15 ppmv @ 3% O<sub>2</sub> under ATCS in Project S-1094659. These ATCs will be implemented first.

The steam generators associated with this project have CO limits up to 50 ppmv CO @ 3%O<sub>2</sub> (0.037 lb/MMBtu). No change to the CO emissions limit is proposed; therefore, compliance with the rule emission requirements is expected.

Source testing, monitoring and recordkeeping requirements of Rule 4320 are equal to or more stringent than the requirements of this rule; therefore, continued compliance is expected

## **District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr**

This rule limits NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO<sub>x</sub> emitted over the previous year.

The units in this project are all rated at greater than 5 MMBtu/hr heat input and are subject to this rule.

### **Section 5.1 NO<sub>x</sub> Emission Limits**

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- 5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- 5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- 5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2.1 states that on and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NO<sub>x</sub> limit specified in Table 1 of this rule. On and after October 1, 2008, units shall not be operated in a manner that exceeds a carbon dioxide (CO) emissions limit of 400 ppmv.

For units that are fired on TVR gas, CUSA opted for dual NO<sub>x</sub> limits based on the fuel burned. Category C2, Staged Enhanced Schedule Initial limit of 9 ppmv (0.011 lb/MMBtu) - if the unit is burning 50% or greater by volume PUC quality gas. Category C3, Staged Enhanced Schedule Initial Limit of 12 ppmv (0.014 lb/MMBtu) – if the unit is burning less than 50% by volume PUC quality gas.

For units that are not fired on TVR gas, CUSA will comply with the 9 ppmv @ 3%O<sub>2</sub> (0.011 lb/MMBtu), Category C2.

<b>Rule 4320 NO<sub>x</sub> Emission Limits</b>			
<b>C. Oilfield Steam Generators</b>	<b>NO<sub>x</sub> Limit</b>	<b>Authority to Construct</b>	<b>Compliance Deadline</b>
	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu ; or	July 1, 2009	July 1, 2010



2. Units with a total rated heat input >20 MMBtu/hr	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062lb/MMBtu	January 1, 2013	January 1, 2014
3. Units firing on less than 50% by volume, PUC quality gas	Staged Enhanced Schedule Initial Limit 12ppmv or 0.014 lb/MMBtu; and	July 1, 2010	July 1, 2011
	Final Limit 9 ppmv or 0.011 lb/MMBtu	January 1, 2013	January 1, 2014

The steam generators associated with this project have CO limits up to 50 ppmv CO @ 3%O<sub>2</sub> (0.037 lb/MMBtu). No change to the CO emissions limit is proposed; therefore, compliance with the rule emission requirements is expected.

Section 5.2.4 applies to units firing on a combination of gaseous and liquid fuels. CUSA is not proposing to fire on liquid fuels.

## Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the rule.

Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

Section 5.4.1.2 provides option for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.

Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3 % O<sub>2</sub>.

The steam generators are approved to incinerate TEOR and TVR gas. CUSA will have a fuel sulfur content limit of 5 gr S/100 scf. The ATCs will have conditions specifying these limits to ensure compliance with this section of the rule.

## Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. CUSA is not requesting low-use status; therefore, this section of the rule is not applicable to this project.

## **Section 5.6 Startup and Shutdown Provisions**

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2, Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

CUSA has proposed to start-up and shutdown NO<sub>x</sub> and CO emissions and duration limits of 2 hours each. Emissions during start-up and shutdown will not be subject to the emission limits in Sections 5.2 and 5.2.2.

## **Section 5.7 Monitoring Provisions**

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO<sub>x</sub>, CO and O<sub>2</sub>, or implement an APCO-approved alternate monitoring.

Consistent with current permit requirements, CUSA proposes to continue implementing Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be retained in the ATCs to ensure compliance with the requirements of this alternate monitoring plan:

- {4063} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Measurement shall be made with the FGR system in the mode of operation (closed or open) in which it was used in the preceding 30 days. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- {4064} If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply

with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]

- {4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- {4066} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

Section 5.7.6 requires monitoring SO<sub>x</sub> emissions. CUSA has elected to comply with Sections 5.4.1.2 and 5.4.1.3 as discussed above. The following conditions will be retained and/or added to be in compliance with this rule requirement:

- PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
- Fuel H<sub>2</sub>S, total sulfur, and methane content shall be determined semi-annually using the following test methods H<sub>2</sub>S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H<sub>2</sub>S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
- In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]
- Each fuel source shall be tested *quarterly (or monthly or semi-annually)* for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which *quarterly (or monthly or semi-annual)* testing may resume. [District Rule 4320]
- If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring

the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]

- If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]

## **Section 5.8 Compliance Determination**

Section 5.8.1 requires that the operator of any unit have the option of complying with either the applicable heat input (lb/MMBtu), emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be retained or listed on the ATCs as follows:

- {2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320]

Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be listed on the ATCs as follows:

- {2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306 and 4320]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO<sub>x</sub> analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed permit condition will be on the ATCs as follows:

- {2937} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute

sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- {2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320]

### **Section 6.1 Recordkeeping**

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

The condition on start-up and shutdown record keeping conditions shall be retained in the ATCs to ensure CUSA's compliance with this section of the rule.

### **Section 6.2, Test Methods**

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following existing permit conditions will be retained on the ATCs:

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O<sub>2</sub>) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO<sub>x</sub> - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H<sub>2</sub>S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320]

### **Section 6.3, Compliance Testing**

Section 6.3.1 requires that each unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months, except if two consecutive annual source tests demonstrate compliance, source testing may be performed every 36 months. If such a

source test demonstrates non-compliance, source testing shall revert to every 12 months. The following conditions will be included in the appropriate ATCs:

- A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. The NO<sub>x</sub> limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO<sub>x</sub> and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
- Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO<sub>x</sub> and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320]
- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 6.3.1.1 specifies tune-up requirements. CUSA will use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer. Therefore the tune-up requirements listed in Section 6.3.1.1 are not applicable. This section also requires, that during the 36-month source testing interval, the owner/operator shall monitor monthly the operational characteristics recommended by the unit manufacturer. Since the pre-approved alternate monitoring requires monthly monitoring of NO<sub>x</sub>, CO and O<sub>2</sub> exhaust emission concentrations using a portable analyzer, the operational characteristics monitoring requirements is satisfied.

#### **Section 6.4 Emission Control Plan (ECP)**

Section 6.4 requires the operator of any unit to submit to APCO for approval an Emissions Control Plan no later than January 1, 2010. CUSA has submitted their ECP for these units; therefore, is in compliance with this requirement.

#### **Section 7.0, Compliance Schedule**

Section 7.0 identifies the dates by which the operator shall submit an application for an ATC and the date by which the owner shall demonstrate compliance with this rule. Compliance with this requirement of the rule is expected.

**Conclusion**

Conditions will be incorporated into the ATCs in order to ensure compliance with each section of this rule, see attached draft ATCs. Therefore, compliance with District Rule 4320 requirements is expected.

**District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1**

This rule applies to boilers, steam generators, and process heaters at NO<sub>x</sub> Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The steam generators are located within the Heavy Oil Western stationary source. The units in this project are located west of I-5; therefore, the provisions of this rule do not apply.

**District Rule 4801 Sulfur Compounds**

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO<sub>2</sub>

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) =  $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{1.94 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1,341 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1,341 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

**California Health & Safety Code 42301.6 (School Notice)**

There is no increase in emissions of any hazardous air pollutants as a result of this project. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

## **California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

### **Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change

### **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

## **IX. RECOMMENDATION**

Compliance with all applicable rules and regulations is expected. Issue the ATCs listed below subject to the permit conditions on the attached draft Authorities to Construct in Appendix B.



## X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1131-941 and -966	3020-02-H	27.5 MMBtu/hr	\$1,030 each
S-1131- 976	3020-02-H	23.0 MMBtu/hr	\$1,030
All other units	3020-02-H	62.5 MMBtu/hr	\$1,030 each

## APPENDICES

- Appendix A: Draft ATCs from Projects S-1094657 & S-1094659
- Appendix B: Draft Authority to Construct (ATCs)
- Appendix C: Emissions Profile(s)
- Appendix D: Title V Compliance Certification

## **APPENDIX A**

Draft ATCs from Projects S-1094657 & S-1094659

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-62-31

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-38; DIS# 20630-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE LOW-NOX BURNER, AND NORTH AMERICAN OPTIMIZER: LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.007 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-62-31 : Jun 10 2010 10:50AM -- GOUQHD : Joint Inspection NOT Required

6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE:** DRAFT  
**DRAFT**

**PERMIT NO:** S-1131-63-26

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05   **TOWNSHIP:** 29S   **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG#60-39, DIS#20631-79) WITH NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER): LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**  
S-1131-63-26 : Jun 10 2010 10:50AM - GOUGH : Joint Inspection NOT Required

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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rule, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-64-26

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-40; DIS# 20632-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE LOW-NOX BURNER AND NORTH AMERICAN OPTIMIZER. LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-1131-64-26 : Jun 10 2010 10:50AM - GOUGH : Joint Inspection NOT Required

6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rule, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-65-27

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF DORMANT 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-41; DIS# 20633-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL #5131-HGCR-62.5, BURNER AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER): INSTALL NORTH AMERICAN GLE LOW-NOX BURNER, LIMIT NOX TO 15 PPM @ 3% O<sub>2</sub>, AND LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULES 4306 AND 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM<sub>10</sub>/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1131-65-27 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

6. Except during startup, shutdown, and the shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 43.5 lb-CO/day, and 15,858 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, or 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The shakedown period shall begin upon initial operation of this unit after implementation of the modification authorized by this ATC. The shakedown period shall be concluded within 60 days of initial operation and prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and all monitoring records as required by this permit starting on the date of initial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
13. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
14. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
16. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
17. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



18. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
24. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
31. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-66-25

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-42; DIS# 20634-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE LOW-NOX BURNER AND NORTH AMERICAN OPTIMIZER. (SAN JOAQUIN LOWER): LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-66-25 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 15,858 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-67-26

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-43; DIS# 20635-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER); LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-67-26 : Jun 10 2010 10:51AM - GOUGH : Joint Inspection NOT Required

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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-68-25

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (HSG# 60-44; DIS# 20636-79) WITH FLUE GAS RECIRCULATION AND A NORTH AMERICAN GLE LOW-NOX BURNER (SAN JOAQUIN LOWER); LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1131-68-25 Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rule, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-69-25

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-45; DIS# 20637-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE LOW-NOX BURNER AND NORTH AMERICAN OPTIMIZER. (SAN JOAQUIN LOWER): LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-69-25 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 15,858 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1131-70-25

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-46; DIS# 20638-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER); LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**  
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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-73-25

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-49; DIS# 20641-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (SAN JOAQUIN LOWER); LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational gas volume flowmeter that measures the fuel gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following limits: 0.005 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-73-25 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

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6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 20,258 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. When pipeline quality natural gas is used to fuel this unit, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM D6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD, performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 (as methane) in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of volume of fuel gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-77-26

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE29 **TOWNSHIP:** 28S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF NON-COMPLIANT DORMANT 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-67; DIS# 20611-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL #5131-HGCR-62. 5, BURNER AND NORTH AMERICAN OPTIMIZER. (CANFIELD LEASE); INSTALL NORTH AMERICAN GLE LOW-NOX BURNER, LIMIT NOX TO 15 PPM @ 3% O<sub>2</sub>, AND LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULES 4306 AND 4320 COMPLIANCE AND CORRECT OPERATING LOCATION TO SE29, T28S, R28E

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas and vapor recovery gas that has a combined fuel sulfur content not exceeding 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup, shutdown, and the shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The shakedown period shall begin upon initial operation of this unit after implementation of the modification authorized by this ATC. The shakedown period shall be concluded within 60 days of initial operation and prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and all monitoring records as required by this permit starting on the date of initial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
17. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2, and 4320, 6.2.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
22. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D1826 or D1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
39. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-78-25

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE29 **TOWNSHIP:** 28S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-69; DIS# 20610-79) WITH A NORTH AMERICAN MAGNA FLAME GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION (CANFIELD LEASE): LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE AND CORRECT OPERATING LOCATION TO SE29, T28S, R28E

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas and vapor recovery gas that has a combined fuel sulfur content not exceeding 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-78-25 : Jun 10 2010 10:51AM - GOUGH : Joint Inspection NOT Required

6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCO performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
27. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-82-28

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED C.E. NATCO STEAM GENERATOR (HSG# 60-88; DIS# 20643-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL GLE MAGNA-FLAME (OR DISTRICT APPROVED EQUIVALENT), AND NORTH AMERICAN OPTIMIZER - SJ LOWER: LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF OR REDUCE SOX BY 95% OR LIMIT EXHAUST SO2 TO 9 PPMV FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and vapor recovery gas from the vapor control system listed on permit unit PTO S-1131-598 that has a combined fuel sulfur content not exceeding 5.0 gr S/100 scf unless SOx is reduced by 95% or to an outlet concentration not exceeding 9 ppmv via scrubbing. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu or 1.026 lb-SOx/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with SO<sub>x</sub> emission limits shall be performed within 60 days of startup of this unit. An analysis of the fuel sulfur content shall be submitted for compliance with the SO<sub>x</sub> requirement in lieu of the source test for SO<sub>x</sub>. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis showing the fuel's sulfur content or conduct a source test for SO<sub>x</sub> at least once every 12 months. [District Rule 4320, 5.7.6]
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-94-29

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 29 **TOWNSHIP:** 28S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF DORMANT 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (HSG# 70-08; DIS# 20627-81) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN, MODEL #5131-HGCR-62. 5, BURNER AND NORTH AMERICAN OPTIMIZER (CANFIELD LEASE): INSTALL NORTH AMERICAN GLE LOW-NOX BURNER, LIMIT NOX TO 15 PPM @ 3% O<sub>2</sub>, AND LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULES 4306 AND 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas and vapor recovery gas that has a combined fuel sulfur content not exceeding 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-94-29 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

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6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
7. Except during startup, shutdown, and the shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The shakedown period shall begin upon initial operation of this unit after implementation of the modification authorized by this ATC. The shakedown period shall be concluded within 60 days of initial operation and prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and all monitoring records as required by this permit starting on the date of initial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Each fuel source shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
17. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
18. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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19. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]
21. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
22. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320] Federally Enforceable Through Title V Permit
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
39. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-95-25

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS/GAS FIRED STRUTHERS STEAM GENERATOR (HSG# 70-31; DIS# 20642-79) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER - SJ LOWER: LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF OR REDUCE SOX BY 95% OR LIMIT EXHAUST SO2 TO 9 PPMV FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1131-598. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf unless SOx is reduced by 95% or to an outlet concentration not exceeding 9 ppmv @ 3% O2 via scrubbing. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-95-25 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu or 0.006 lb-VOC/MMBtu or 1.026 lb-SOx/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 43.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. A source test to demonstrate compliance with SO<sub>x</sub> emission limits shall be performed within 60 days of startup of this unit. An analysis of the fuel sulfur content shall be submitted for compliance with the SO<sub>x</sub> requirement in lieu of the source test for SO<sub>x</sub>. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis showing the fuel's sulfur content or conduct a source test for SO<sub>x</sub> at least once every 12 months. [District Rule 4320, 5.7.6]
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1131-98-31

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-44; DIS# 20608-82) WITH A NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF OR REDUCE SOX BY 95% OR LIMIT EXHAUST SO2 TO 9 PPMV FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1131-598. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf unless SOx is reduced by 95% or to an outlet concentration not exceeding 9 ppmv @ 3% O2 via scrubbing. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**

S-1131-98-31 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; 1.026 lb-SO<sub>x</sub>/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with SO<sub>x</sub> emission limits shall be performed within 60 days of startup of this unit. An analysis of the fuel sulfur content shall be submitted for compliance with the SO<sub>x</sub> requirement in lieu of the source test for SO<sub>x</sub>. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis showing the fuel's sulfur content or conduct a source test for SO<sub>x</sub> at least once every 12 months. [District Rule 4320, 5.7.6]
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. Records shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-99-32

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (HSG# 70-45; DIS# 20609-82) WITH A NORTH AMERICAN MODEL #GLE-4231 LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF OR REDUCE SOX BY 95% OR LIMIT EXHAUST SO2 TO 9 PPMV FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1131-598. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf unless SOx is reduced by 95% or to an outlet concentration not exceeding 9 ppmv @ 3% O2 via scrubbing. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services  
S-1131-99-32 : Jun 10 2010 10:51AM - GOUGHD : Joint Inspection NOT Required

5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; 1.026 lb-SOx/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with SO<sub>x</sub> emission limits shall be performed within 60 days of startup of this unit. An analysis of the fuel sulfur content shall be submitted for compliance with the SO<sub>x</sub> requirement in lieu of the source test for SO<sub>x</sub>. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis showing the fuel's sulfur content or conduct a source test for SO<sub>x</sub> at least once every 12 months. [District Rule 4320, 5.7.6]
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. Records shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-858-15

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE29 **TOWNSHIP:** 28S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF NON-COMPLIANT DORMANT 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED NATIONAL STEAM GENERATOR (HSG# 50-43; DIS# 20628-79) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MODEL #5131-HGCR-62.5 BURNER, AND NORTH AMERICAN OPTIMIZER - (CANFIELD LEASE); INSTALL NORTH AMERICAN GLE LOW-NOX BURNER, LIMIT NOX TO 15 PPM @ 3% O<sub>2</sub>, AND LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULES 4306 AND 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1131-598. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-858-15 : Jun 10 2010 11:01AM - GOUGHD : Joint Inspection NOT Required

5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup, shutdown, and the shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, 39 ppmvd CO @ 3% O2 or 0.029 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The shakedown period shall begin upon initial operation of this unit after implementation of the modification authorized by this ATC. The shakedown period shall be concluded within 60 days of initial operation and prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and all monitoring records as required by this permit starting on the date of initial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
17. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



18. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
22. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
39. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-859-16

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE05 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (HSG# 50-51; DIS# 19161- 75) WITH A NORTH AMERICAN MODEL GLE MAGNA-FLAME, LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM AND NORTH AMERICAN OPTIMIZER (SAN JOAQUIN LOWER): LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF OR REDUCE SOX BY 95% OR LIMIT EXHAUST SO2 TO 9 PPMV FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1131-598. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf unless SOx is reduced by 95% or to an outlet concentration not exceeding 9 ppmv @ 3% O2 via scrubbing. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-859-16 : Jun 10 2010 11:02AM - GOUGHD : Joint Inspection NOT Required

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.108 lb-PM10/MMBtu; 1.026 lb-SO<sub>x</sub>/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 39 ppmvd CO @ 3% O<sub>2</sub> or 0.029 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 43.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
14. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
16. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
17. A source test to demonstrate compliance with SO<sub>x</sub> emission limits shall be performed within 60 days of startup of this unit. An analysis of the fuel sulfur content shall be submitted for compliance with the SO<sub>x</sub> requirement in lieu of the source test for SO<sub>x</sub>. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Permittee shall submit an analysis showing the fuel's sulfur content or conduct a source test for SO<sub>x</sub> at least once every 12 months. [District Rule 4320, 5.7.6]
21. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 for ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCF performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. Records shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
38. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1131-877-17

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 04 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #46 WITH FGR, NORTH AMERICAN MODEL GLE 4231 BURNER AND O2 CONTROLLER (CENTRAL PLANT); LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER, Director of Permit Services**

S-1131-877-17 : Jun 10 2010 11:02AM - GOUGHD : Joint Inspection NOT Required

6. Emission rates shall not exceed any of the following limits: 0.0768 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 28 ppmvd CO @ 3% O2 or 0.021 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 31.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rule 4320]
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4320] Federally Enforceable Through Title V Permit
28. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. No less than 4.54 miles of roads shall be paved and maintained to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Only hot mix asphalt of a type conforming to Caltrans Standard Specifications shall be used in the paving or maintenance of roads used to provide particulate matter offsets for Project 62 and 95. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. Formerly S-1143-3.
35. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
36. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1131-879-22

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE13 **TOWNSHIP:** 28S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FGR AND AN O2 CONTROLLER (#70, CENTRAL PLANT); LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyyed Sadredin, Executive Director / APCO

**DAVID WARNER, Director of Permit Services**

S-1131-879-22 : Jun 10 2010 11:02AM - GOUGHD : Joint Inspection NOT Required

6. Emission rates shall not exceed any of the following limits: 0.013 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. The NO<sub>x</sub> limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO<sub>x</sub> and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO<sub>x</sub> and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu and 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rule 4320]
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. Formerly S-1143-5.
36. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
37. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-880-16

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 04 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR #140 WITH A NORTH AMERICAN MODEL #GLE-4231 LOW-NOX BURNER AND FLUE GAS RECIRCULATION (CENTRAL PLANT): LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-880-16 : Jun 10 2010 11:02AM - GOUGHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 41 ppmvd CO @ 3% O<sub>2</sub> or 0.030 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 45.0 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Each fuel source shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rule 4320]
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NOx and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
31. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. Formerly S-1143-6.
33. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
34. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-881-17

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 04 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER (CENTRAL PLANT); LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-881-17 : Jun 10 2010 11:02AM - GOUGH : Joint Inspection NOT Required

5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
7. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
9. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
19. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rule 4320]
23. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
30. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
31. Formerly S-1143-6.
32. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
33. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-883-17

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION: 4 TOWNSHIP: 29S RANGE: 28E**

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#143) WITH NORTH AMERICAN MODEL GLE MAGNA-FLAME (OR DISTRICT APPROVED EQUIVALENT), FGR, AND O2 CONTROLLER (CENTRAL PLANT): LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.013 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu and 41 ppmvd CO @ 3% O<sub>2</sub> or 0.03 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 54.0 lb-NO<sub>x</sub>/day, 9,855 lb-NO<sub>x</sub>/year, 0.084 lb-CO/MMBtu, 45.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. Formerly S-1143-9.
34. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
35. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-884-19

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 04 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MM BTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR #144 EQUIPPED WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION. (CENTRAL PLANT): LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.013 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier [District Rules 2520 and 4320] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. Formerly S-1143-10.
34. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
35. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1131-908-20

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION: 4 TOWNSHIP: 29S RANGE: 28E**

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MM BTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS FIRED STRUTHERS STEAM GENERATOR (#71) WITH A NORTH AMERICAN GLE LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND O2 CONTROLLER: LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas, recovered vapors and gas from the vapor control system listed on PTO S-1132-8, S-1132-90, S-1131-885, S-1131-903, S-1131-909 and S-1131-1040. The combined fuel sulfur content from these units shall not exceed 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-908-20: Jun 10 2010 11:02AM - GOUGH: Joint Inspection NOT Required

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5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following limits: 0.013 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. The fuel combusted in this unit shall be tested monthly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which monthly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



17. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier [District Rules 2520 and 4320] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO<sub>x</sub> and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. Formerly S-1143-90.
34. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]
35. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1131-912-9

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** SE04 **TOWNSHIP:** 29S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM (RASMUSSEN LEASE): LIMIT FUEL SULFUR CONTENT TO 1 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas. The combined sulfur content of all fuels supplied to this steam generator shall not exceed 1.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-912-9 : Jun 10 2010 11:02AM - GOUGH : Joint Inspection NOT Required

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6. Emission rates shall not exceed any of the following limits: 0.014 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup and shutdown, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. Including startup and shutdown periods, maximum emissions from the steam generators shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 54.0 lb-NOx/day, 9,855 lb-NOx/year, 0.084 lb-CO/MMBtu, 55.5 lb-CO/day, and 14,235 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Each fuel source shall be tested quarterly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which quarterly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
13. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 2201 and 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. Source testing for compliance demonstration shall be conducted by independent testing laboratories, and shall be witnessed, or authorized by the District personnel. Sample collection shall be by ARB certified testing laboratory. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture - EPA Method 4, PM<sub>10</sub> - EPA Method 5, SO<sub>x</sub> (lb/MMBtu) - EPA Method 6C or 8 or ARB Method 100, or fuel gas sulfur content analysis (as H<sub>2</sub>S) - EPA Method 11 or 15 or ASTM 6228 and (as total sulfur) - ASTM D1072, D3246, or D6228, or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans or GC FPTD/TCD performed in the laboratory, fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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29. Permittee shall maintain daily records of fuel gas, the sulfur content as determined by analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. Records shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [District Rules 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of District Rules 4201, 4301 and 4801. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
34. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1131-941-15

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 28S **RANGE:** 27E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF NON-COMPLIANT DORMANT EMISSIONS UNIT: 27.5 MMBTU/HR THERMOTICS VAPOR CONTROL/NATURAL GAS-FIRED STEAM GENERATOR #29 WITH FLUE GAS RECIRCULATION AND AMETEK THERMOX O2 CONTROLLER (LEASE FEE A) (GROUP II): INSTALL NORTH AMERICAN GLE LOW-NOX BURNER, LIMIT NOX TO 15 PPM @ 3% O2, AND LIMIT FUEL SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULES 4306 AND 4320 COMPLIANCE

**CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4320 Emission Control Plan. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. The operator shall fire the unit only on natural gas and vapor recovery gas that has a combined fuel sulfur content not exceeding 5.0 gr S/100 scf. [District Rules 2201, 4406, and 4320] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with an operational gas volume flowmeter that measures the combined fuel gas and vapor recovery gas volume sent to the steam generator. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1131-941-15 : Jun 10 2010 11:02AM - GOUGHD : Joint Inspection NOT Required

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6. Emission rates shall not exceed any of the following limits: 0.093 lb-PM10/MMBtu; or 0.007 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except during startup, shutdown, and the shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu and 45 ppmvd CO @ 3% O2 or 0.033 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Including startup and shutdown periods, maximum emissions from the steam generator shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 23.8 lb-NOx/day, 4,336 lb-NOx/year, 0.084 lb-CO/MMBtu, 21.8 lb-CO/day, and 6,263 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Duration of startup or shutdown shall not exceed two hours each per occurrence. The emissions control system shall be in operation and emissions shall be minimized insofar as technologically possible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall maintain records of duration of each start-up and shutdown. Startup is defined as the period of time to reach operating temperature and pressure once fuel is supplied, including the time required by the emission control system to reach full operation. Shutdown is defined as the period of time taken from operating temperature and pressure until the fuel supply is completely turned off. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, 45 ppmvd CO @ 3% O2 or 0.033 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The shakedown period shall begin upon initial operation of this unit after implementation of the modification authorized by this ATC. The shakedown period shall be concluded within 60 days of initial operation and prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and all monitoring records as required by this permit starting on the date of initial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Each fuel source shall be tested quarterly for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which quarterly testing may resume. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
15. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
16. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 2520, 9.3.2 and Rule 4320, 5.7.6] Federally Enforceable Through Title V Permit
17. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4320, 6.2.1] Federally Enforceable Through Title V Permit
18. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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